

AN ANOMALOUS APPENDAGE ON THE CARAPACE OF THE AMERICAN LOBSTER

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Over a half century ago Bateson (1894) stipulated that "to collect and codify the facts of variation is, I submit, the first duty of the naturalist;" he went on to say, "... a knowledge of variation lies at the root of all biological progress." Field biologists have many opportunities to observe variation of organisms, and only by placing them on record will such information, especially rarities, be available for synthesis for no one person is likely to be able to collect sufficient data through his own efforts alone. The accumulated observations of many naturalists over a period of time will eventually shed light on the mechanism of organic variations.

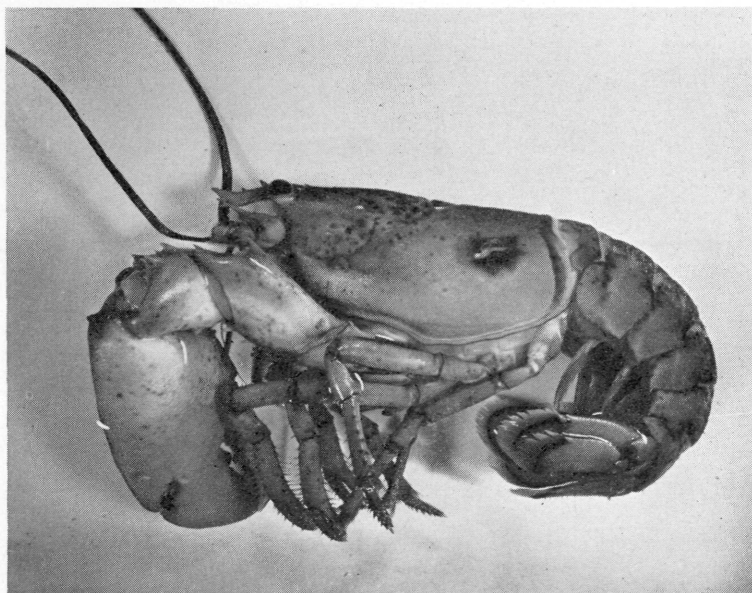


FIGURE 1. Lateral view of lobster showing anomalous appendage on left side of carapace.

While sampling the lobster population in Fisher's Island Sound off the coast of Connecticut in 1946, the writer discovered a unique specimen with an appendage attached to the carapace which is described and figured below. Teratological specimens of lobsters have been reported during the past century by Van Beneden (1864), Faxon (1881), Hyatt (1881), Richard (1893), Bateson (1894), Emmel (1907), Herrick (1909), Cole (1910), Jugeat (1926), Barnes et al (1932), and Templeman (1948). All of those on record involve the walking legs or rostrum. As far as known the present paper is the first record of a traumatically induced appendage growing on the carapace.

¹This study was made while the writer was serving as Temporary Aquatic Biologist for the Connecticut State Board of Fisheries and Game and the Bingham Oceanographic Laboratory of Yale University during the summer of 1946.

By means of special traps designed for capturing all sizes of lobsters, samples were taken from Fisher's Island Sound in the summer of 1946. On August 8 a small lobster (*Homarus americanus*) which contained an anomalous appendage was trapped at a depth of 18 fathoms. It is a female specimen 17.7 cm. long with a carapace length of 6.0 cm. and weighs 158 g. The right pincher claw is missing. On the left side of the carapace, near the posterior margin, is a small appendage resembling a miniature uropod (fig. 1). The exopodite measures 5 mm. by 3 mm. The endopodite measures 4 mm. by 2 mm. Each is bordered with a fringe of setae 1 to 1.5 mm. long (fig. 2). The appendage has grown from a conspicuous wound in the carapace which has healed completely. While the lobster remained alive, the appendage showed no movement. Apparently it was traumatically induced, possibly through the splitting of a nerve in the hypodermis lining the carapace. Such might have been caused by an injury at the time of molting. Herrick (1909) long ago pointed out that "Przibram has shown that in all probability monstrous

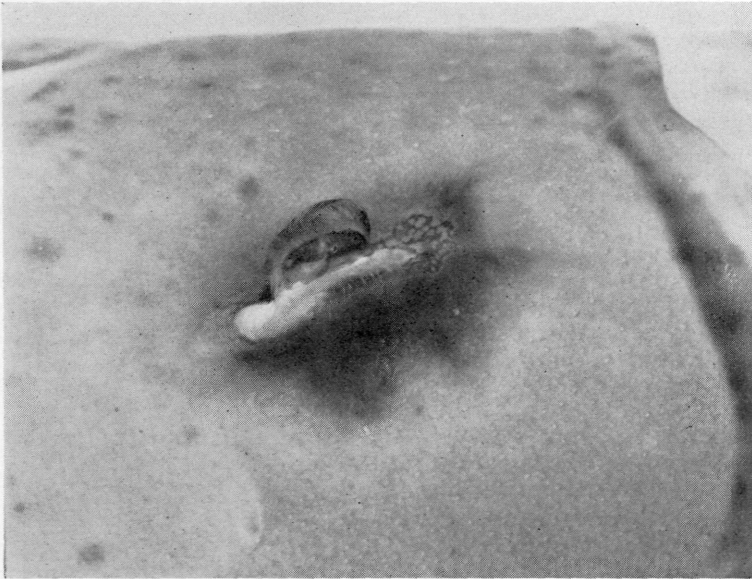


FIGURE 2. Anomalous appendage consisting of an exopodite and an endopodite growing from a wound on the carapace.

growths of every kind result from a regenerative process following upon injury. However, such growths are comparatively rare and follow only upon injury of a certain kind, or upon an injury inflicted at a certain time with respect to the molting period, or under certain conditions of the animal which are not fully understood." The appendage is heavily chitinized but has fleshy joints. Its arrangement follows Bateson's principle (1894) in that the outer branch is homologous to the exopodite while the inner branch is homologous to the endopodite. According to Emmel (1907) it is unusual to find an abnormal appendage on an immature animal.

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